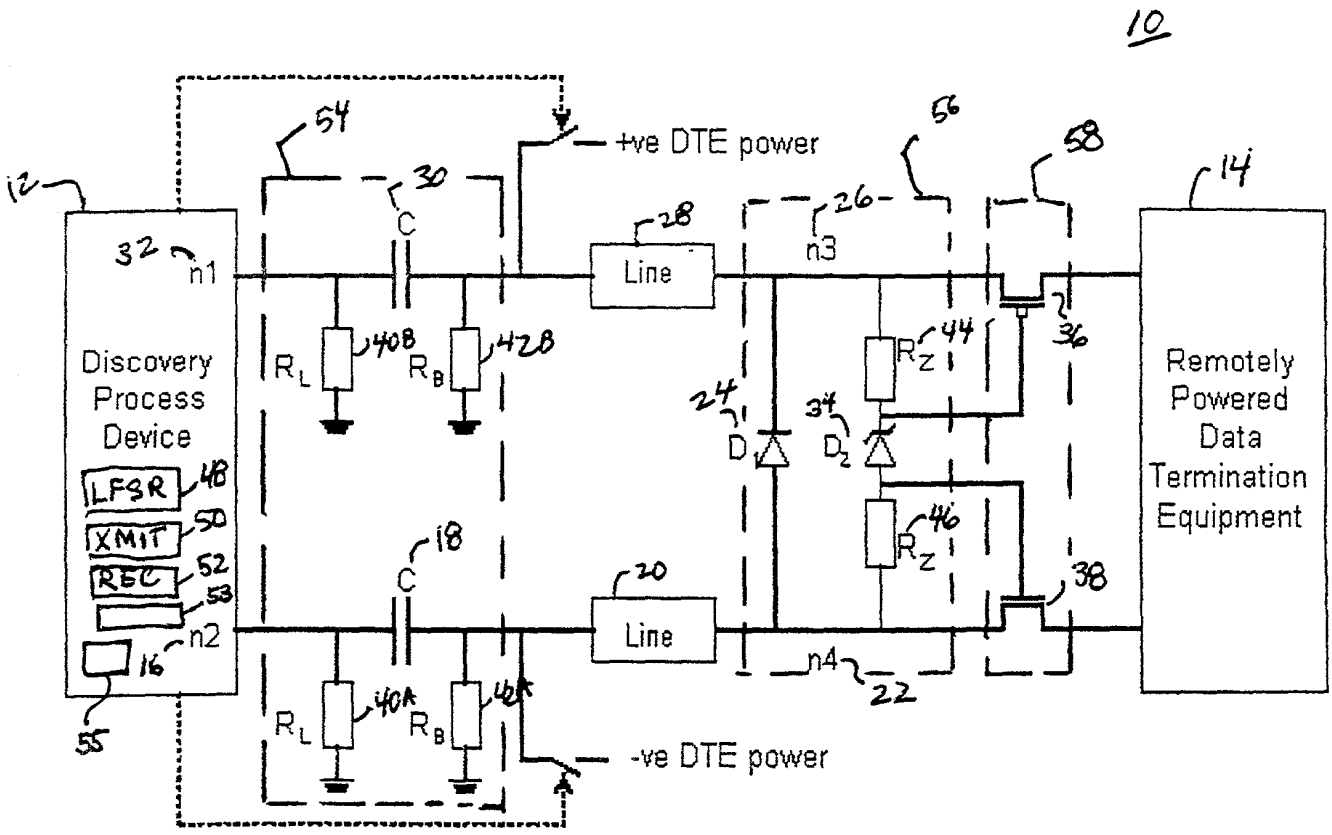
10
12
54
30
C
+ve DTE power
56
58
14
32
n1
28
Line
26
n3
Discovery
Process
Device
LFSR
48
XMIT
50
REC
52
53
16
55
R_L
40B
R_B
42B
24
D
34
D_Z
R_Z
44
36
Remotely
Powered
Data
Termination
Equipment
18
C
20
Line
n2
n4
22
R_L
40A
R_B
42A
R_Z
46
38
-ve DTE power

FIG. 1

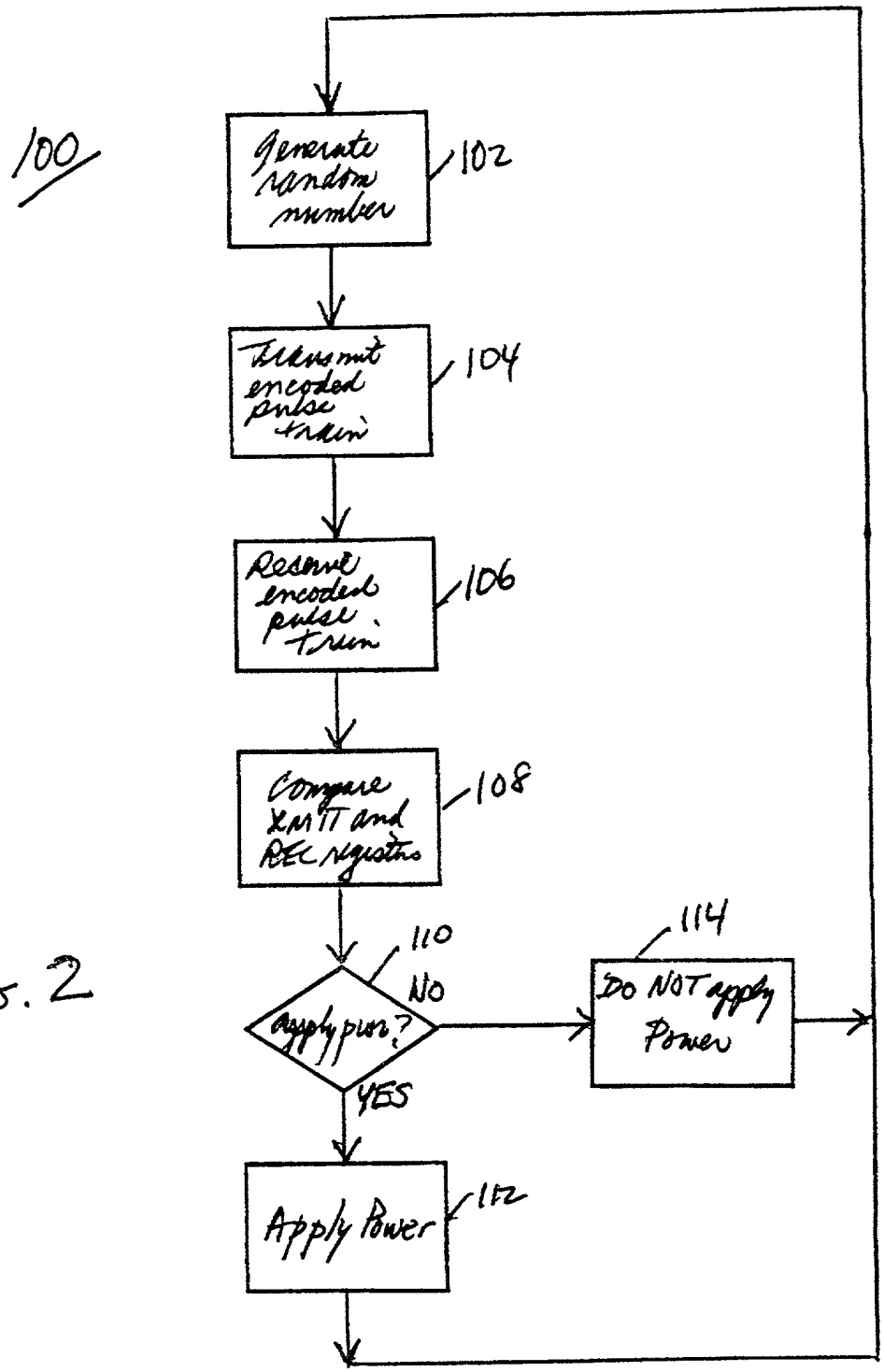

FIG. 2

09999999 - 110803

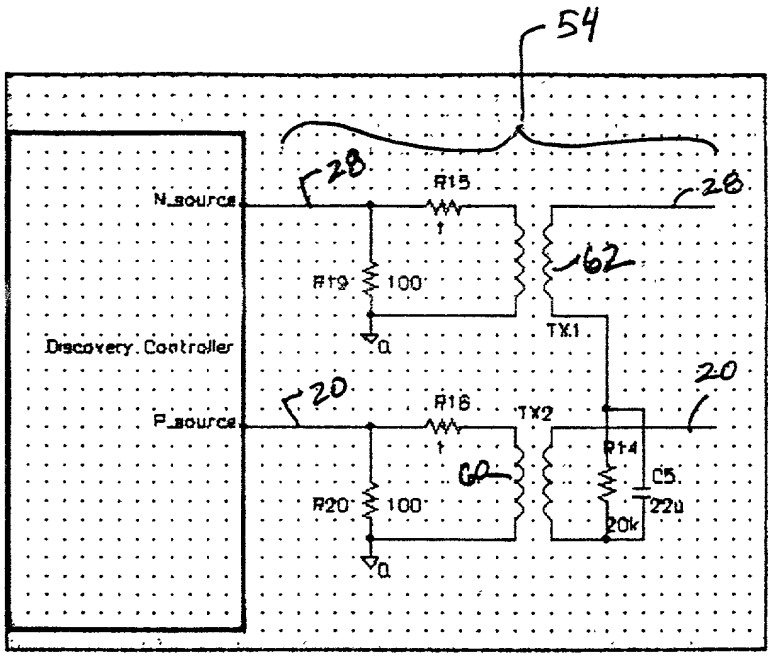

FIG. 3

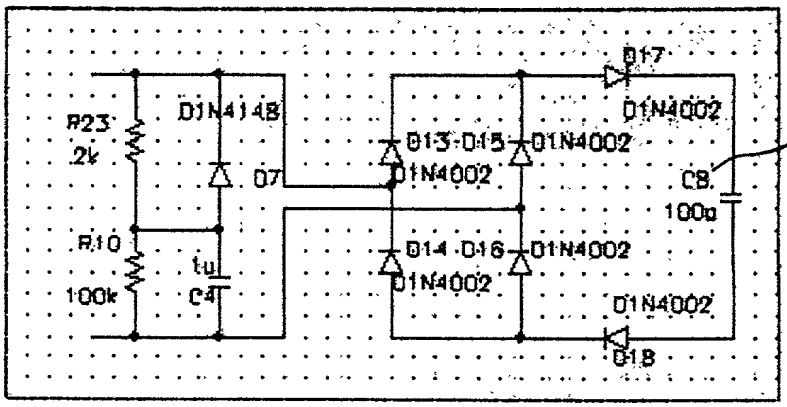

FIG. 4

9595554 - 1105.01

05525564 - 4006 01

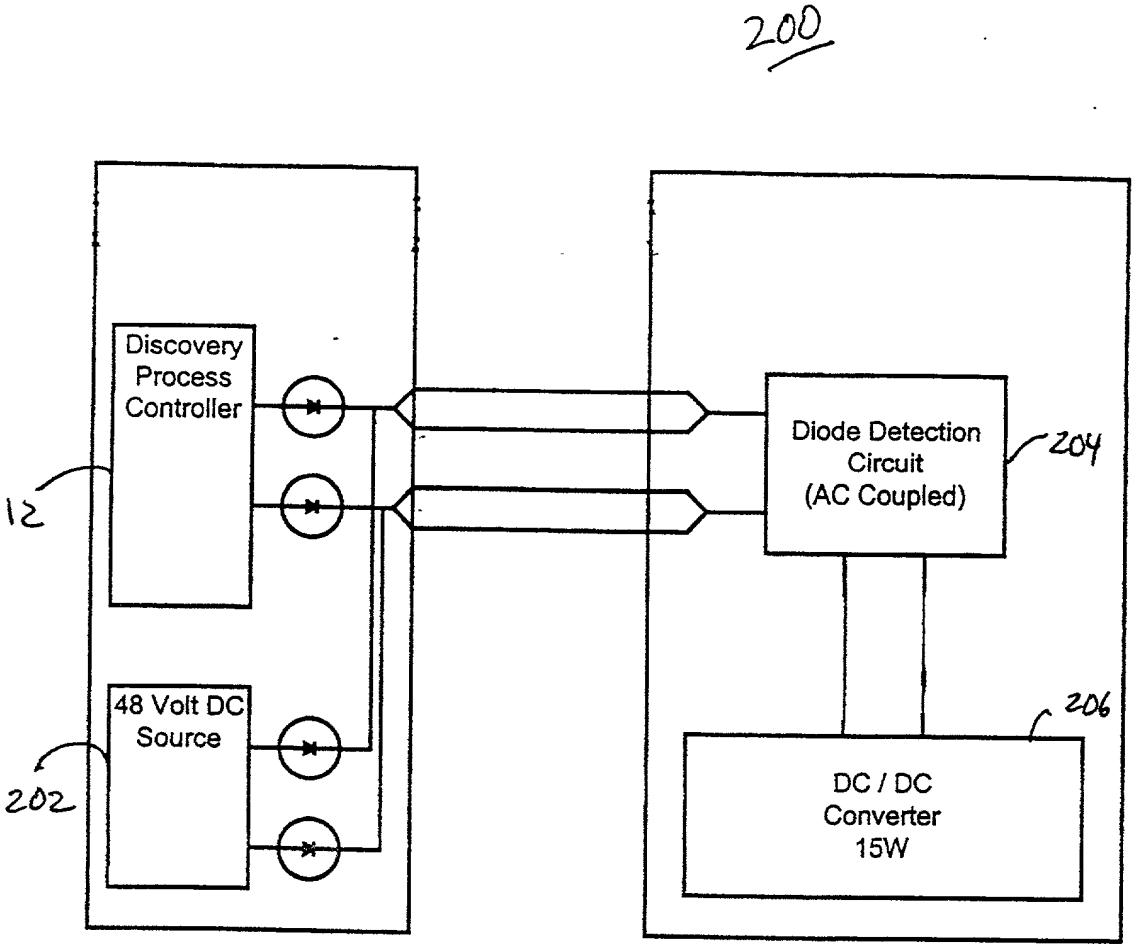

FIG. 5

250

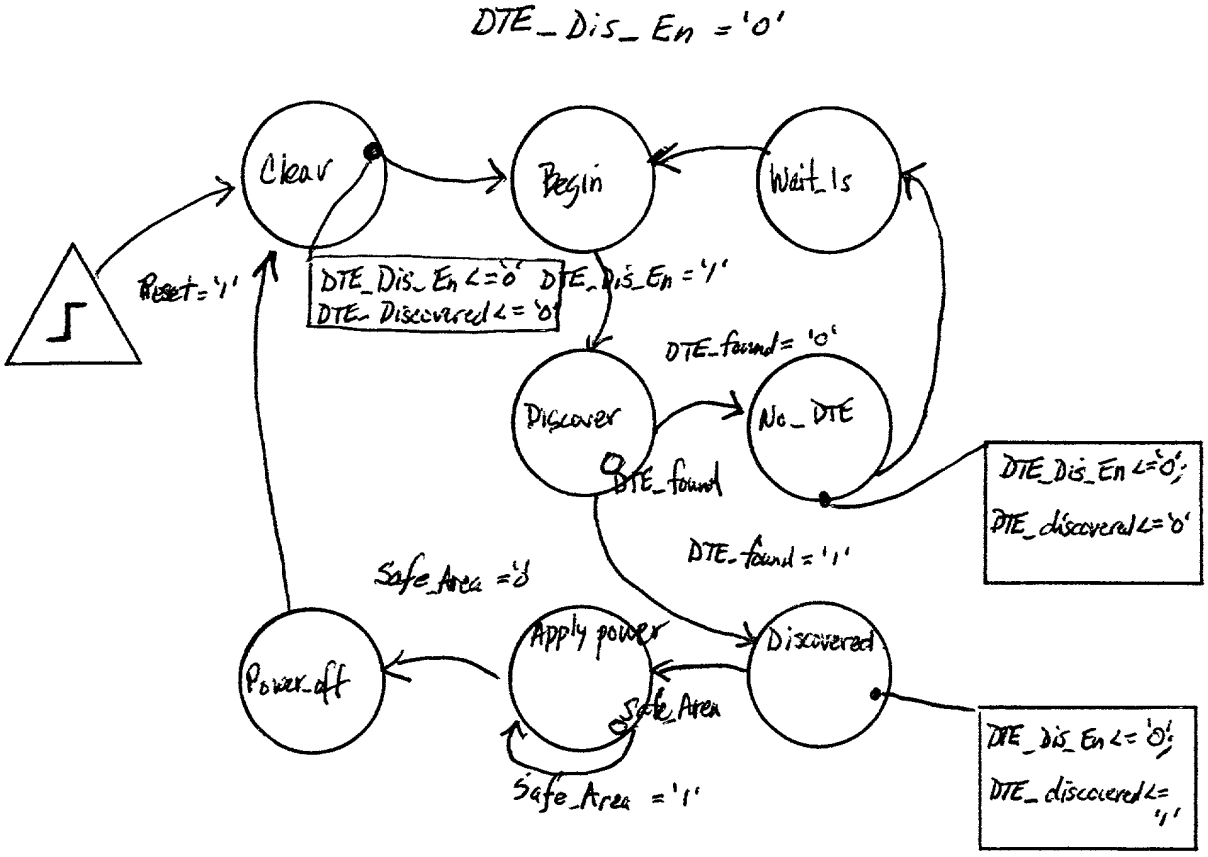
DTE_Dis_En = '0'
Clear
Begin
Wait_1s
Reset = '1'
DTE_Dis_En <= '0'
DTE_Discovered <= '0'
DTE_Dis_En = '1'
DTE_found = '0'
Discover
No_DTE
DTE_found
DTE_Dis_En <= '0';
DTE_discovered <= '0'
DTE_found = '1'
Safe_Area = '0'
Power_off
Apply power
Discovered
Safe_Area
DTE_Dis_En <= '0';
DTE_discovered <= '1'
Safe_Area = '1'

FIG. 6

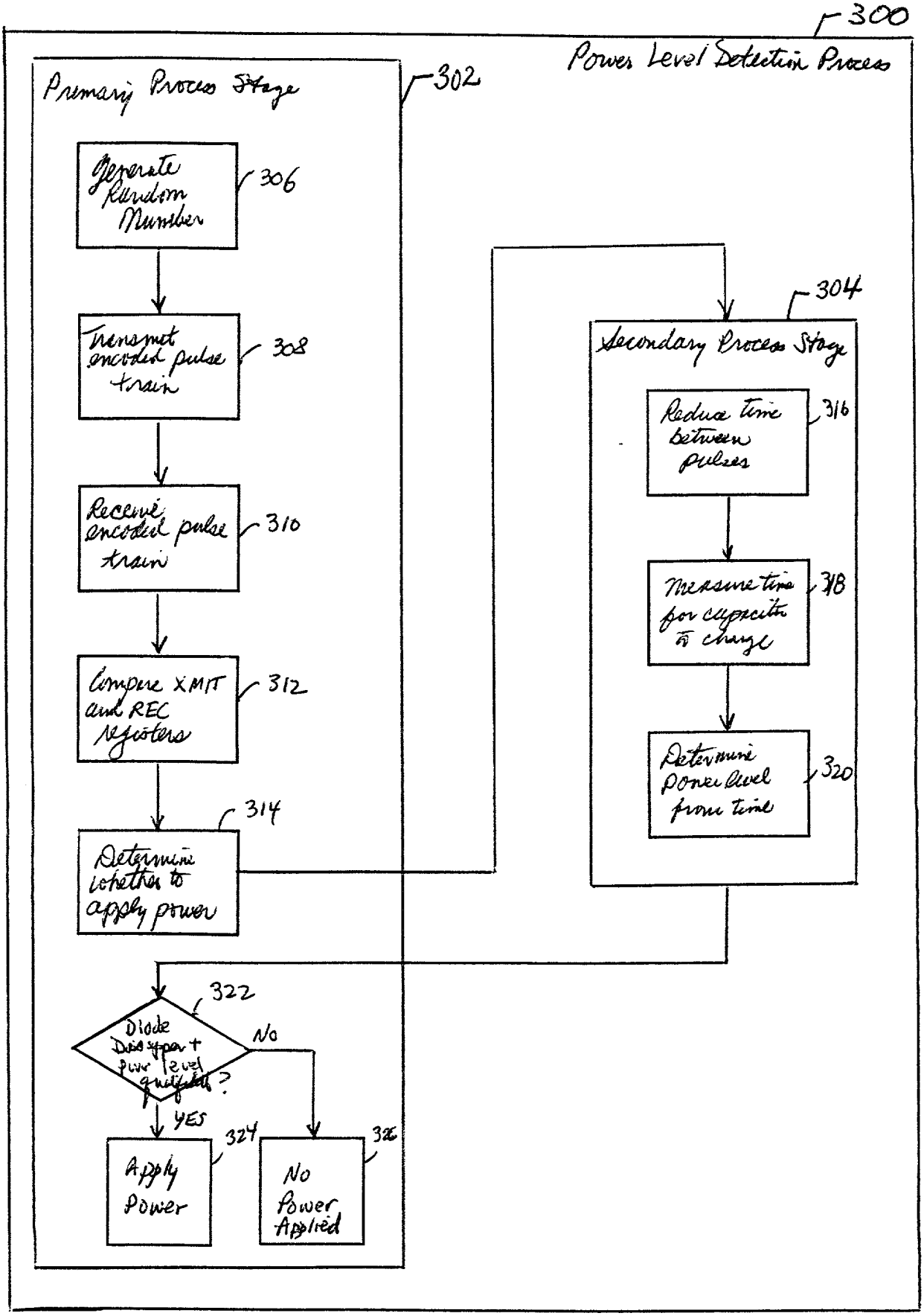
300
Power Level Detection Process
Primary Process Stage
302
Generate Random Number
306
Transmit encoded pulse train
308
Receive encoded pulse train
310
Compare XMIT and REC Registers
312
Determine whether to apply power
314
Secondary Process Stage
304
Reduce time between pulses
316
Measure time for capacitor to charge
318
Determine Power Level from time
320
Diode Disappear + pwr level qualified ?
322
No
YES
Apply Power
324
No Power Applied
326

FIG. 7